

Earthquakes

Indiana Department of Homeland Security

Interagency Press Release Bank



Earthquakes

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Earthquakes

Earthquakes

What to Know About Earthquakes

Educate yourself and family members:

- Teach children how and when to call 9-1-1, the police or fire department and which radio or television station to tune to for emergency information.
- Teach all family members how and when to turn off gas, electricity and water (Remember, you'll need a professional to turn natural gas services back on.).

Familiarize yourself with the following earthquake terms to help identify hazards:

- Earthquake: A sudden slipping or movement of a portion of the earth's crust, followed by a series of vibrations.
- Aftershocks: Earthquakes of similar or lesser intensity that frequently follow the main earthquake.
- Epicenter: The place on the earth's surface directly above the point on the fault where the earthquake ruptures begin. Once fault slippage begins, it expands along the fault during the earthquake and can extend hundreds of miles before stopping.
- Fault: The fracture across which displacement occurs during an earthquake. The slippage may range from less than an inch to more than 10 yards in a severe earthquake.
- Magnitude: The amount of energy released during an earthquake, which is computed from the amplitude of the seismic waves. A magnitude of 7.0 on the Richter Scale indicates an extremely strong earthquake. Each whole number on the scale represents an increase of about 30 times more energy released than the previous whole number represents. Therefore, an earthquake measuring 6.0 is about 30 times more powerful than one measuring 5.0.
- Seismic waves: Vibrations that travel outward from the earthquake fault at speeds of several miles per second. Although fault slippage directly under a structure can cause considerable damage, the vibrations of seismic waves cause most of the destruction during earthquakes.

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Preparing Yourself and Your Family for an Earthquake

Develop and practice a home earthquake plan:

- Identify safe places indoors and outdoors: Under sturdy furniture such as a heavy desk or table, against an inside wall, and away from where glass could shatter around windows, mirrors, pictures or where heavy bookcases or other heavy furniture could fall over.
- If outdoors, a safe place is away from buildings, trees, telephone and electrical lines, overpasses and elevated expressways.
- Practice DROP, COVER AND HOLD ON with your family at least twice a year. Drop under a sturdy desk or table, hold on and protect your eyes by pressing your face against your arm.
- Keep in mind any special needs of young children, the elderly and individuals with mobility impairments.
- Take first aid classes and keep your training current.
- Get training on how to use a fire extinguisher from your local fire department.
- Inform babysitters and caregivers of your home earthquake plan.

Develop an emergency communication plan:

- In case family members are separated from one another during an earthquake (a real possibility during the day when adults are at work and children are at school); develop a plan for reuniting after the disaster.
- Ask an out-of-state relative or friend to serve as the “family contact.” After a disaster, it is often easier to call long distance. Make sure everyone in the family knows the name, address and phone number of the contact person.

Preparing Your Home for an Earthquake

Check for hazards in the home:

- Fasten shelves securely to walls, and brace overhead light fixtures.
- Place large or heavy objects on lower shelves.

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- Hang heavy items such as pictures and mirrors away from beds, couches or anywhere people sit.
- Secure a water heater by strapping it to the wall studs and bolting it to the floor.
- Store breakable items such as bottled foods, glass and china, in low, closed cabinets with latches.
- Store weed killers, pesticides and flammable products securely on bottom shelves in closed cabinets with latches.
- Repair defective electrical wiring and leaky gas connections to avoid potential fire risks.
- Repair any deep cracks in ceilings or foundations. Get expert advice if there are signs of structural defects.
- Consult a professional to find out additional ways you can protect your home, such as bolting the house to its foundation and other structural mitigation techniques.
- Keep essential emergency gear, such as a flashlight and sturdy shoes, by your bedside.

Have disaster supplies on hand:

- Flashlight and extra batteries
- First aid kit and manual
- Essential medicines
- Emergency food and water
- Manual can opener
- Cash and credit cards
- Sturdy shoes
- Protective clothing, rainwear and bedding or sleeping bags
- Portable battery-operated radio and extra batteries
- Written instructions for how to turn off gas, electricity (remember you'll need a professional to turn natural gas services back on).

Preparing Your Community for an Earthquake

Help your community get ready for an earthquake

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- Publish a special section in your local newspaper with emergency information on earthquakes.
- Localize the information by printing the phone numbers of local emergency services and hospitals.
- Conduct a week-long series on locating hazards in the home.
- Work with local emergency services to prepare special reports for people with mobility impairments or other special needs on what to do during an earthquake.
- Provide tips on conducting earthquake drills in the home.
- Interview representatives of the gas, electric and water companies about shutting off utilities.
- Work together with your community and apply your knowledge to building codes, retrofitting programs, hazard huts and neighborhood and family emergency plans.
- Communicate with school officials to ensure children know what to do during an earthquake.

What to Do During an Earthquake

If indoors during an earthquake:

- Stay inside until shaking stops and it is safe to go outside. Most injuries occur when people inside buildings attempt to move to a different location inside the building or try to leave.
- DROP, COVER, AND HOLD ON. During an earthquake, the safest course of action is to drop to the ground; take cover by getting under a sturdy table or other piece of furniture; and hold on because both you and the furniture may move. Stay put until the shaking stops.
- If there isn't a table or desk near you, cover your face and head with your arms and crouch in an inside corner of the building.
- Stay away from glass, windows, outside doors and walls and anything that could fall, such as lighting fixtures or furniture.
- If you are in bed when an earthquake strikes and not under a heavy light fixture or picture that could fall, stay there, hold on and protect your head with a pillow. If you are under a light fixture or other object that could fall on you, move to the nearest safe place.
- Use a doorway for shelter only if it is in close proximity to you and only if you know it is a strongly supported, load-bearing doorway.
- Be aware that the electricity may go out or the sprinkler systems or fire alarms may turn on.

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- Do not use the elevators.
- Be ready for aftershocks, which are usually smaller in size, and take the aforementioned precautions.

If outdoors during an earthquake:

- Stay there.
- Move away from buildings, streetlights and utility wires.
- Once in the open, stay there until the shaking stops. The greatest danger exists directly outside buildings, at exits and alongside exterior walls. Many of the 120 fatalities from the 1933 Long Beach earthquake occurred when people ran outside of buildings only to be killed by falling debris from collapsing walls.
- Ground movement during an earthquake is seldom the direct cause of death or injury. Most earthquake-related casualties result from collapsing walls, flying glass and falling objects.
- Be ready for aftershocks, which are usually smaller in size, and take the aforementioned precautions.

If in a moving vehicle during an earthquake:

- Drive slowly to a clear location. Avoid stopping near or under buildings, trees, overpasses, utility wires and anything else that could fall on you.
- Stop as quickly as safety permits.
- Stay in the vehicle.
- Proceed cautiously once the earthquake has stopped. Avoid roads, bridges or ramps that might have been damaged by the earthquake.

If you are trapped under debris:

- Do NOT light a match.
- Do NOT move about or kick up dust.
- Cover your mouth with a handkerchief or clothing.
- Tap on a pipe or wall so rescuers can locate you. Use a whistle if one is available.

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- Shout only as a last resort. Shouting can cause you to inhale dangerous amounts of dust.

What to Do After an Earthquake

Following an earthquake, do not make the mistake of thinking the time for caution and alertness has passed. Some earthquakes are actually foreshocks and a larger earthquake may be coming. Aftershocks can occur a few minutes or even a few months after the initial quake. Stay safe by remembering that aftershocks may be imminent, and avoid taking unnecessary risks.

Ground movement during an earthquake is seldom the direct cause of death or injury. Most injuries suffered during an earthquake occur from subsequent structural instability and falling debris, so once you are out in the open or in a safe place indoors, stay there.

Evaluate the scene:

- Remain calm and check yourself for injuries. Put on long pants, a long-sleeved shirt, sturdy shoes and work gloves to protect yourself from debris.
- Help injured or trapped persons. Remember to help your neighbors who may require special assistance such as infants, the elderly and people with disabilities.
- Give first aid when appropriate.
- Do not move seriously injured persons unless they are in immediate danger of further injury. Use the telephone to call for help only to report life-threatening emergencies.

Expect aftershocks:

- These secondary shockwaves are usually less violent than the main quake but can be strong enough to do additional damage to already-weakened structures. They can occur in the first hours, days, weeks or even months after the quake.
- Listen to a battery-operated radio or television for the latest emergency information.

Inspect your home:

- Stay away from damaged areas unless your assistance has been specifically requested by police, fire or relief organizations.

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- Return to your home ONLY when authorities say it is safe.
- Open cabinets cautiously: Beware of objects that can fall off shelves.
- Clean up spilled medicines, bleaches, gasoline or other flammable liquids immediately: Leave the area if you smell gas or fumes from other chemicals.
- Inspect the entire length of chimneys for damage: Unnoticed damage could lead to a fire.

Inspect utilities:

- Check for gas leaks: If you smell gas or hear blowing or hissing noises, open a window and quickly leave the building. Turn off the gas at the outside main valve if you can and call the gas company from a neighbor's home. If you turn off the gas for any reason, it must be turned back on by a professional.
- Look for electrical system damage: If you see sparks, broken or frayed wires or if you smell hot insulation, turn off the electricity at the main fuse box or circuit breaker. If you have to step in water to get to the fuse box or circuit breaker, call an electrician first for advice.
- Check for sewage and water line damage: If you suspect sewage lines are damaged, avoid using the toilets and call a plumber. If water pipes are damaged, contact the water company and avoid using water from the tap. You can obtain safe water by melting ice cubes frozen prior to the suspected water pipe damage.

Beware of Aftershocks

An earthquake of similar or lesser intensity that follows the main earthquake is an aftershock. These secondary shockwaves are usually less violent than the main quake but can be strong enough to do additional damage to already-weakened structures.

Following an earthquake, do not make the mistake of thinking the time for caution and alertness has passed. Aftershocks can occur a few minutes or even a few months after the initial quake. Stay safe by remembering that aftershocks may be imminent, and avoid taking unnecessary risks.

Stay away from damaged areas unless your assistance has been specifically requested by police, fire or relief organizations and return to your home only when authorities say it is safe.

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Ground movement during an earthquake is seldom the direct cause of death or injury. Most injuries suffered during an earthquake occur from subsequent structural instability and falling debris, so once you are out in the open or in a safe place indoors, stay there.